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(d) Any EPIRB carried as part of a survival craft station must comply with the specific technical and performance requirements for its class contained in subpart V of this chapter.

[51 FR 31213, Sept. 2, 1986, as amended at 53 FR 8905, Mar. 18, 1988; 53 FR 37308, Sept. 26, 1988; 56 FR 11516, Mar. 19, 1991]

§ 80.225 Requirements for selective calling equipment.

This section specifies the requirements for voluntary digital selective calling (DSC) equipment and selective calling equipment installed in ship and coast stations. Reference to any CCIR Recommendation in this section is to the most recent CCIR approved Recommendation that does not prevent the use of existing equipment.

(a) DSC equipment voluntarily installed in coast or ship stations must meet either the requirements of CCIR Recommendation 493 (including only equipment classes A, B, D, and E) or RTCM Paper 56-95/SC101-STD. DSC equipment must not be used with the sensors referred to in § 80.179(e)(2). DSC equipment used on compulsorily fitted ships must meet the requirements contained in subpart W for GMDSS.

(b) Manufacturers of Class C DSC equipment to be used on United States vessels must affix a clearly discernible permanent plate or label visible from the operating controls containing the following:

WARNING. This equipment is designed to generate a digital maritime distress and safety signal to facilitate search and rescue. To be effective as a safety device, this equipment must be used only within communication range of a shore-based VHF marine channel 70 distress and safety watch system. The range of the signal may vary but under normal conditions should be approximately 20 nautical miles.

(c) Selective calling equipment, other than that designed in accordance with paragraph (a) of this section, is authorized as follows:

(1) Equipment used in conjunction with the Automated Maritime Telecommunications System (AMTS) in the band 216-220 MHz,

(2) Equipment used to perform a selective calling function during narrow-band direct-printing (NB-DP) operations in accordance with CCIR Recommendation 476 or 625, and

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(3) Equipment functioning under the provisions of § 80.207(a) includes the brief use of radiotelegraphy, including keying only the modulating audio frequency, tone signals, and other signaling devices to establish or maintain communications provided that:

(i) These signalling techniques are not used on frequencies designated for general purpose digital selective calling (DSC) and distress and safety DSC calling as listed in § 80.359;

(ii) The authorized radiotelephone emission bandwidth is not exceeded;

(iii) Documentation of selective calling protocols must be available to the general public; and,

(iv) Harmful interference is not caused to stations operating in accordance with the International Radio Regulations.

[54 FR 10009, Mar. 9, 1989, as amended at 62 FR 40306, July 28, 1997]

§ 80.227 Special requirements for protection from RF radiation.

As part of the information provided with transmitters for ship earth stations, manufacturers of each such unit must include installation and operating instructions to help prevent human exposure to radiofrequency (RF) radiation in excess of the RF exposure guidelines specified in § 1.1307(b) of the Commission's Rules.

[53 FR 28225, July 27, 1988]

§ 80.229 Special requirements for automatic link establishment (ALE).

Brief signalling for the purposes of measuring the quality of a radio channel and thereafter establishing communication shall be permitted within the 2 MHz-30 MHz band. Public coast stations providing high seas service are authorized by rule to use such signalling under the following conditions:

(a) The transmitter power shall not exceed 100 W ERP;

(b) Transmissions must sweep linearly in frequency at a rate of at least 60 kHz per second, occupying any 3 kHz bandwidth for less than 50 milliseconds;

(c) The transmitter shall scan the band no more than four times per hour;

(d) Transmissions within 6 kHz of the following protected frequencies and

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frequency bands must not exceed 10 μ W peak ERP:

(1) Protected frequencies (kHz)

2091.0	4188.0	6312.0	12290.0	16420.0
2174.5	4207.5	8257.0	12392.0	16522.0
2182.0	5000.0	8291.0	12520.0	16695.0
2187.5	5167.5	8357.5	12563.0	16750.0
2500.0	5680.0	8364.0	12577.0	16804.5
3023.0	6215.0	8375.0	15000.0	20000.0
4000.0	6268.0	8414.5	16000.0	25000.0
4177.5	6282.0	10000.0		

(2) Protected bands (kHz)

4125.0–4128.0
8376.25–8386.75
13360.0–13410.0
25500.0–25670.0

(e) The instantaneous signal, which refers to the peak power that would be measured with the frequency sweep stopped, along with spurious emissions generated from the sweeping signal, must be attenuated below the peak carrier power (in watts) as follows:

(1) On any frequency more than 5 Hz from the instantaneous carrier frequency, at least 3 dB;

(2) On any frequency more than 250 Hz from the instantaneous carrier frequency, at least 40 dB; and

(3) On any frequency more than 7.5 kHz from the instantaneous carrier frequency, at least $43 + 10\log_{10}$ (peak power in watts) db.

[62 FR 40307, July 28, 1997]

Subpart F—Equipment Authorization for Compulsory Ships

§ 80.251 Scope.

(a) This subpart gives the general technical requirements for certifi-

cation of equipment used on compulsory ships. Such equipment includes radiotelegraph transmitters, radiotelegraph auto alarms, automatic-alarm-signal keying devices, survival craft radio equipment, watch receivers, and radar.

(b) The equipment described in this subpart must be certificated.

(c) The term *transmitter* means the transmitter unit and all auxiliary equipment necessary to make this unit operate as a main or emergency transmitter in a ship station at sea. Each separate motor-generator, rectifier, or other unit required to convert the ship primary power to the phase, frequency, or voltage necessary to energize the transmitter unit is considered a component of the transmitter.

(d) *Average ship station antenna* means an actual antenna installed on board ship having a capacitance of 750 picofarads and an effective resistance of 4 ohms at a frequency of 500 kHz, or an artificial antenna having the same electrical characteristics.

[51 FR 31213, Sept. 2, 1986, as amended at 63 FR 36606, July 7, 1998]

§ 80.253 Technical requirements for main transmitter.

(a) The following table gives the operating carrier frequency, emission, modulation and average ship station antenna power requirements for the main transmitter.

Operating frequency (kHz)	Frequency tolerance		Class of emission	Percentage modulation for amplitude modulation	Modulation frequency for amplitude modulation	Power into average ship station antenna
	Parts ¹ in 10 ⁶	Hz ²				
500 kHz	1,000	20	A2A and A2B or H2A and H2B.	Not less than 70; not more than 100.	At least 1 frequency between 300 and 1250 Hertz, except for transmitters installed after July 1, 1951, at least 1 frequency between 450 and 1250 Hertz.	Not less than 200 watts.
Do	1,000	20	A1A or J2A	Not less than 160 watts.
410 and 2 working frequencies in the band 415 to 525.	1,000	20	A2A and A3N or H2A and H3N.	Not less than 70; not more than 100.	At least 1 frequency between 300 and 1250 Hertz, except for transmitters installed after July 1, 1951, at least 1 frequency between 450 and 1250 Hertz.	Not less than 200 watts.